WILSHIRE CONSULTING

Attachment 2

Cost Effectiveness Measurement Report
Periods Ended December 31, 2007
July 31st, 2008

Summary

For the one-year period ended December 31, 2007, CalPERS' total fund generated a return of 10.2% relative to its policy return[1] of 9.9%. Its implementation value-added was 0.3% compared to 0.0% in 2006. In the years that CalPERS has participated in the Cost Effectiveness Measurement, Inc. (CEM) study, the largest difference between it and its peers in the past was its more diversified asset allocation. Over time, its peers have become equally as diversified and there are now smaller differences in the percent allocated to the broad asset classes on a policy basis between CalPERS and its peers. There are differences, however, between CalPERS' total fund benchmarks and the indices utilized by the other sponsors in the peer group, particularly within the AIM and real estate segments. Relative to its peers, CalPERS' total return of 10.2% outperformed the peer universe median return of 9.9% and performed in-line with the average return of 10.2%. Its implementation value-added lagged the peer average and median return of 0.8% for 2007. Over the 5 years ending 2007 however, CalPERS implementation value-add of 1.2% continues to outperform the peer median and averages.

CalPERS' total return of 14.6% over the last five years ranked in the 47th percentile (third quartile)[2] versus its peers, and it outperformed its policy objective of 13.4%. Over the five-year period, CalPERS has added 1.2% per annum in value over its policy benchmark, higher than the average of 0.9% for the peer group, with a slightly higher level of implementation risk (1.1% vs. peer median of 0.9%). Value added totaled approximately $2.3 billion a year or $11.5 billion for the five-year period.

For 2007, CalPERS was in the positive value added, low cost quadrant of CEM's Cost Effectiveness Chart. CalPERS' total operating cost for the investment program of 35.1 basis points for 2007 ranks in the 70th percentile, relative to its peers' average cost of 29.5 basis points. CalPERS' lower exposure to external active managers saved the program 1.2 basis point of value relative to its peers. Total costs incurred for the year were approximately $853.7 million. Costs have increased over time on an absolute basis given the increase in CalPERS investment in higher cost asset classes, but remain extremely competitive relative to peers and the U.S. universe.

Cost Effectiveness Measurement, Inc. (CEM) is a service company providing investment performance data on pension plans which cover about 25% of defined benefit assets in the United States. Published annually, CEM's report provides comparative and explanatory information and serves as a management information tool. CEM has

[1] The total fund policy benchmarks utilized in the CEM study are not necessarily representative of the benchmarks reported by Wilshire Associates, Inc.
[2] In this report 100% is the top percentile and 1% is the bottom percentile.

constructed a universe of 10 peer plan sponsors with assets averaging $95.6 billion against which to compare CalPERS. The report examines value-added return within the context of both the cost expended and the risk incurred to achieve that return.

Discussion

CalPERS' total fund return is a function of the impact of investment policy, which is set by the CalPERS Investment Committee, and the impact of the implementation of that policy by the Staff. CalPERS' total return of 10.2% for the year ranks in the 59th percentile in CEM's peer group. CalPERS and its peers invest in similar asset classes, though they differ slightly in weighting and in their respective benchmarks. CalPERS' policy return of 9.9% ranks in the 81st percentile of its peers, due to differences in benchmark returns in U.S. equities and U.S. fixed income. These are the two largest policy allocations and their positive effects were not be offset by higher benchmark returns in the asset classes such as AIM with significantly lower policy allocations. CalPERS' policy benchmark return and those of its peers are determined by weighting the individual asset class benchmark returns by the asset allocation target percentage weights to those asset classes with an adjustment for overlay and re-balancing impacts.

CalPERS' Implementation Value Added (the difference between its total return and policy return) of 0.3% compared to its peers was at the 36th percentile versus the 14th percentile in 2006.

Asset Allocation and Benchmark Return

CalPERS' overall asset allocation policy differed significantly from peer plan sponsors in a few ways. CalPERS has a higher proportion invested in U.S. equities and a concomitant underweight in fixed income. There is also no material difference between CalPERS' 20% international equity allocation and the combined allocation of 20.1% international equity allocation (17.8% developed and 2.3%) of their peers. Exhibit I below shows CalPERS' broad asset allocation policy targets compared to its peers for 2007.

Exhibit I
Comparison of Asset Allocation Policies
2007

	CalPERS	Peers		Difference
Domestic Equity	40.0%	35.4%		4.6%
International Equity	20.0%	20.1%		-0.1%
Fixed Income - U.S.	23.0%	27.4%	*	-4.4%
Fixed Income - Foreign	3.0%	1.5%	**	1.5%
Real Estate and Real Assets	8.0%	7.0%		1.0%
AIM	6.0%	8.8%		-2.8%
Total	100%	100%		0%

*Includes inflation-indexed, high yield, mortgages, other and cash
** Includes global and emerging fixed income

Exhibit II lays out the differences in benchmark returns. The largest difference in benchmark returns is found in AIM. Diversified private equity made up the largest subset of this asset class, and had fairly substantial differences in benchmark returns at 10% for CalPERS and 16% for the peers. Additionally, the AIM asset class as defined by CEM did not include hedge funds (which returned 14%) in the CalPERS' return, but did include it for the peer universe.

Exhibit II
Comparison of Benchmark Returns
2007

	CalPERS		Peers		Difference
Domestic Equity	6.7%		5.2%		1.5%
International Equity	13.5%		15.1%		-1.6%
Fixed Income - U.S.	7.3%	*	6.8%	*	0.5%
Fixed Income - Foreign	10.9%	**	9.0%	***	1.9%
Real Estate	17.3%		12.1%		5.2%
AIM	10.0%		15.2%		-5.2%

*Includes inflation-indexed, high yield, mortgages, other and cash
** Hedged
*** Includes global and emerging fixed income

When the differences in benchmark returns are combined with the differences in policy allocations, the reason behind CalPERS policy return out-performance versus its peers is clearer. In 2007, CalPERS had higher benchmark returns in the asset classes with the highest policy allocations, U.S. equity and fixed income. The allocation to assets such as AIM, whose benchmark return of 10% ranked below the peer benchmark return of 15.2%, did not offset these differences. As a result, CalPERS policy return ranked very well, in the 81st percentile for 2007. Over the longer 5 year time frame, CalPERS ranks above median at the 55th percentile.

Implementation Results

For the year ended December 31, 2007, CalPERS' implementation strategy added 0.3% of value relative to its policy return, while the median peer added 0.8% of value. As a result, CalPERS ranked in the 36th quartile among its peers. Implementation value-added is further broken down into 'In-Category Value Added' and 'Mix Value Added.' 'In-Category Value Added' is the value added from within each asset category (i.e., value added from actual performance versus the benchmark for each asset class) weighted by your policy weights. 'Mix Value Added' is equal to total Implementation Value Added minus 'In-Category Value Added' and primarily results from differences between a fund's actual holdings and the policy asset mix. In 2007, CalPERS' In-Category Value Added was equal to 0.8% versus the peer average of 1.4%. CalPERS' Mix Value Added was -0.5% which was equal to the peer average.

For the calendar year 2007, performance across asset classes was mixed. Equities were broadly flat, while domestic fixed income also returned about 0.8% more than the benchmark. Real estate was the largest underperformer during the year while the AIM asset class produced strong outperformance during the calendar year.

Exhibit III
Asset Class Returns
2007

	Actual Return		Benchmark	Difference
Domestic Equity	6.8%		6.7%	0.1%
International Equity	13.3%		13.5%	-0.2%
Fixed Income - U.S.	8.1%	*	7.3%	0.8%
Fixed Income - Foreign	10.9%		10.9%	0.0%
Real Estate	13.2%		17.3%	-4.1%
AIM	25.8%		10.0%	15.8%
Total	10.2%		9.9%	0.3%

*Includes inflation-indexed, high yield, mortgages, other and cash

Compared to its peers over the last five years, CalPERS ranks at the 71st percentile with an Implementation Value Added of 1.2% annualized – the peer average was 0.8%. This return was earned over and above the asset allocation policy returns earned through the implementation of CalPERS investment policy.

Risk

Risk in this case represents the variability of the Implementation Value Added return. CalPERS has generally exceeded its peers in Implementation Value Added over the last five years with marginally higher risk. CalPERS Implementation Value Added risk has averaged 1.1% over the past five years while the average and median peer had risk of 1.2% and 0.9%, respectively.

Cost

CalPERS incurred 35.1 basis points or $853.7 million in expenses for the year which was 3.8 basis points lower than CEM's benchmark cost, a savings of $93.1 million. The benchmark is based on the costs of the median peer fund for service adjusted for plan size and country of origin. The lower cost can be quantified by CalPERS' lower allocation to external active managers than its peers, (CalPERS, 40% vs. peer average, 54%), which accounted for a savings of 1.2 basis point relative to its peers. Other implementation differences cost the fund 1.1 basis points. CalPERS also paid less for services such as external and internal management which saved 4.5 basis points. The impact of the overlay program and oversight, custodial, and other costs added 0.2 basis points. The 35.1 basis points in expenses were above the mean and median for the peer group, at 29.5 and 24.6 basis points respectively.

Conclusion

For 2007, CalPERS posted positive gains overall, produced 0.3% of added value through implementation, and returned above the median peer return. Although utilizing a similar asset allocation policy as its peers, CalPERS distinguished itself with individual asset class performance that exceeded many of its peers. Its risk level and costs compared favorably to its peers. CalPERS spent 35.1 basis points of its assets in expenses last year without taking excessive risk versus its peers. Looking at the plan's 5-year record, the implementation value-add of 1.2 basis points compares favorably to its peers average of 0.9 basis points.